Photo Credit: Ismail Folaranmi Odetola

2020
DIGITAL DOWNLOAD

A Year in Review

Technology Division
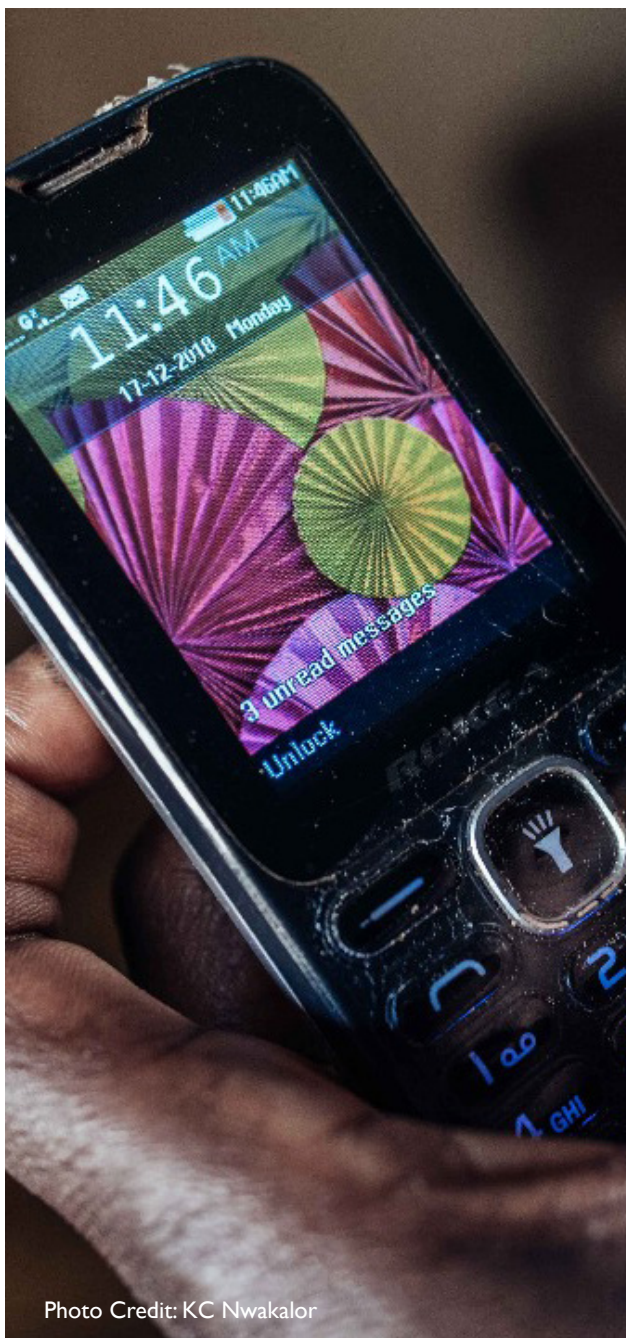Innovation, Technology, and Research Hub

Photo Credit: KC Nwakalor

MESSAGE FROM THE DIRECTOR

In 2020, COVID-19 increased the urgency and need for digital infrastructure, tools, and approaches for everything from education to government services to health. Credible, timely information, enabled by social media and mobile phones, is crucial to fight the spread of COVID-19. Decision-makers have used technology to understand underlying conditions and identify local resources. At the same time, there have been increased threats to privacy, and the increased speed and breadth of disinformation has made fighting COVID-19 that much harder.

Despite the challenges brought about by the global health crisis, the international development community has remained steadfast in its work to deliver critical development and humanitarian assistance, embracing new digital tools and innovative approaches. Indeed, 2020 showed just how critical a role digital technology plays in just about everything we do.

On April 15, 2020, we released USAID's first-ever Digital Strategy (2020-2024), which charts an Agency-wide vision for development and humanitarian assistance in the world's rapidly evolving digital landscape. The Digital Strategy is the culmination of decades of work in digital development and years of synthesizing that experience into a holistic blueprint that will position the Agency to advance its mission to end the need for foreign assistance. This will be done through digitally supported programming that improves measurable development and humanitarian-assistance outcomes and supports open, inclusive, and secure digital ecosystems.

The Digital Strategy gives us the guidance to navigate

the ever-evolving digital revolution, including the use of emerging technologies such as machine learning and artificial intelligence (AI), which are increasingly being applied in international development. By making digital the default way we do business, the Strategy will help USAID more effectively spur economic growth, improve health outcomes, and lift millions out of poverty—while also managing the significant risks to privacy and security, as well as any unethical or undemocratic use of technology. Anticipating and mitigating digital risks also creates opportunities for USAID to promote democracy and human rights.

However, achieving the Digital Strategy's goal will not be easy. To achieve and sustain open, secure, and inclusive digital ecosystems, it will require capacity-building for both our staff and our partners; doubling down on our commitment to the Principles for Digital Development and other established digital best practices; working in tandem with governments, civil society, and the private sector; embracing change to keep abreast of a fast-moving field; and re-envisioning how we deliver development and humanitarian assistance in a digital age. Through consistent and responsible programmatic investments, USAID will strengthen the critical components of digital ecosystems. This will enable sustainable growth by creating a sound enabling environment and policy commitment; driving the rollout of resilient digital infrastructure; fostering capable digital service-providers and workforce; and, ultimately, empowering end-users of these services.

There are also a number of barriers we will need to surmount. The threat of cyber harms to our beneficiaries,

partner countries, and development programs grows and evolves daily. These threats include cyberattacks on critical infrastructure, data breaches of personal information, cybercrimes, and misinformation and disinformation. Through the increasing use of digital surveillance technologies and greater controls on the Internet, authoritarian regimes monitor, harass, and threaten those who seek transparency and accountability as well as disenfranchised and marginalized groups—while also placing restrictions on speech and movement. In spite of these challenges, USAID will continue to build on sectoral successes in digital programming, while focusing new attention on cross-sectoral investments that support open, secure, and inclusive digital ecosystems.

This is especially important in today's world, during a global pandemic. Digital technology allows us to remain connected while staying physically distant; teach homebound students remotely; diagnose patients via telemedicine to minimize the risk of exposure; and find information that can enrich our lives and livelihoods.

The Digital Strategy was published more than a year ago, and you will see in this report that USAID, through the work of its Technology Division, is committed to ensuring that digital technology and ecosystems are used to empower all people—particularly those in vulnerable and underserved communities—to live freer, healthier, and more prosperous lives.

Christopher Burns

Christopher Burns

Deputy Director for Technology
Innovation, Technology, and Research Hub,
Bureau for Development, Democracy, and Innovation
U.S. Agency for International Development

Photo Credit: Des Syafrizal

USAID TECHNOLOGY DIVISION TIMELINE

▼ 2010

- USAID's Mobile Money team is formally created, the first by a bilateral donor agency.
- GSMA mWomen, co-funded and co-designed by USAID, is launched.

▼ 2011

- USAID's Mobile Money team changes its name to the Mobile Solutions team and adds mAccess and mData to its portfolio, expanding its focus to encompass more of the mobile ecosystem.
- The USAID GeoCenter is launched, institutionalizing a geographic approach to development.

▼ 2012

- The Better Than Cash Alliance, co-funded and co-designed by USAID, is launched.
- USAID's Office of Science and Technology is launched.
- USAID establishes the position of Chief Geographer, demonstrating the Agency's commitment to gathering geographic data and targeting its programs, based on data analysis.

▼ 2013

- Alliance for Affordable Internet, co-funded and co-designed by USAID, is launched.
- The Principles for Digital Development are drafted with participation from USAID.
- USAID's Mobile Solutions Team wins GSMA's Best Government Policy for Mobile Development Award.

▼ 2014

- U.S. Global Development Lab is established, and the Mobile Solutions team changes its name to Digital Development, a strategic change reflecting its focus on supporting the foundations of an open and inclusive digital economy.
- The Principles for Digital Development are formally endorsed by USAID.
- Turning Data Into Action Award is launched, proving existing enthusiasm within USAID to use data and technology.
- USAID issues a Procurement Executive Bulletin, requiring e-payments as the default payment mechanism to Implementing Partners.

▼ 2015

- The West Africa Digital Development Forum is hosted in conjunction with the Lab's first Digital Development training.
- The Digital Development for Feed the Future (D2FTF) initiative is launched in collaboration with the Bureau for Food Security.
- GSMA's USAID-supported ConnectedWomen program (previously mWomen) publishes Bridging the Gender Gap report, exploring the digital gender divide and how women can be empowered through digital tools.
- President Obama announces the USAID-India Financial Inclusion Initiative, with the Lab and Center playing a large supporting role.
- Congress appropriates emergency funds for Ebola Response, Recovery and Resilience, including $40M for Innovation, Technology & Partnerships. As part of this, the Lab is included in the Ebola Task Force and supported the Broad Agency Announcement for Health Information Systems Interoperability for Ebola Recovery.
- USAID's Digital Development team, the GeoCenter, and the Lab's Data team combine to form the Center for Digital Development (CDD).
- The YouthMappers program is officially launched by the GeoCenter with university partners on Capitol Hill.
- The Digital Impact Alliance (DIAL), cofounded and co-designed by USAID, is formally launched.
- USAID/India and CDD host a Digital Development Forum and training in New Delhi.
- The first USAID-Treasury Financial Inclusion Forum is held in Washington, DC.

USAID TECHNOLOGY DIVISION TIMELINE

▾ 2016

- Reg Tech for Regulators Accelerator, co-funded and co-designed by USAID, is launched.
- Second USAID-Treasury Financial Inclusion Forum is held in Washington, DC.
- Central America Digital Development Forum and Digital Development training is held in San Salvador, El Salvador.
- USAID creates the Strategy and Research team within CDD to explore emerging technologies and the risks and benefits they pose when used in development.
- Digital Development Advisors Program is launched to create a network of digital development specialists across the Agency.
- The *Fighting Ebola with Information* report is released.
- Agency releases ADS 201 to ensure programs are reporting and using geographic data in the decision-making process and creating more effective, efficient development solutions based on this data.

▾ 2017

- The first Digital Development Awards (Digis) are launched, and five winners are announced.
- *Identity in a Digital Age,* USAID's first report exploring digital ID systems, is published.
- The Nepal Data Driven Farming Prize is launched, and four winners are announced.
- The Center expands its Digital Development training to include an advanced Digital Development 201 training.
- The Zambia Digital Development Forum is held in Lusaka.
- CDD launches DigitalDevelopment.org, providing its resources to partners and the general public.
- A partnership between Google and USAID is announced in Liberia to build reliable, affordable broadband infrastructure for Liberia's capital city of Monrovia.
- The West African Health Informatics Team (WAHIT), co-funded and co-designed by USAID, is formally launched to support digital health information systems across the region.

▾ 2018

- YouthMappers gains its 100th student-led mapping chapter in 100 weeks.
- USAID hosts the Digital Development: The Next 10 Years Forum to discuss the future of digital development and lessons-learned from the field's first decade.
- USAID establishes a policy requiring geographic data collection for field activities.
- *Reflecting the Past, Shaping the Future: Making AI Work for International Development,* a report on artificial intelligence and machine learning in development, is released.
- The second Digi Awards are launched, and five winners are announced.
- USAID's Fall Armyworm Tech Prize is launched, and six winners are announced.
- The WomenConnect Challenge (WCC) is launched, and nine winners are announced.
- *The Primer on Blockchain* is published.
- USAID and the Department of State launch the Digital Connectivity and Cybersecurity Partnership (DCCP).

▼ 2019

- The *FinTech Partnership Playbook* on private sector engagement (PSE) in the context of digital finance and financial inclusion is released.
- The *How To: Create Digital ID for Inclusive Development* guide is released, to promote sustainable digital identity systems.
- In a first-of-its-kind project, CSquared, in partnership with USAID and Google, builds 180 kilometers of metropolitan fiber optic infrastructure in Monrovia, Liberia.
- The Investing to Connect framework, which aims to drive investments in the Last-Mile Connectivity sector by linking investments in connectivity to positive development outcomes, is published.
- A $100 million blended finance fund is developed and launched to invest in opportunities that economically and digitally empower women in developing markets.
- Round Two of the WCC is launched, and three winners are announced.
- *Considerations for Using Data Responsibly at USAID,* providing staff and partners with a framework for approaching responsible data use, is released.

▼ 2020

- USAID releases its first-ever Digital Strategy.
- COVID-19 becomes a global pandemic, increasing the urgency and need for digital infrastructure. USAID issues guidance for remote monitoring, as well as guidance on other digital topics, including impacts on gender digital divide.
- The third Digi Awards are launched, and five winners are announced.
- USAID co-hosts the all-virtual Global Digital Development Forum (GDDF).
- The first phase of the Digital Ecosystem Fund is launched.
- YouthMappers gained its 230th chapter. GeoCenter launches Everywhere She Maps initiative.
- Round Three of the WomenConnect Challenge is launched.
- USAID signs separate MOUs with Microsoft Corporation and Reliance to advance women's economic opportunities and foster more inclusive Internet connectivity.
- USAID and the Federal Communications Commission (FCC) announce the signing of an agreement on 5G broadband Internet.
- *The Geographic Approach to Development,* a story map that encapsulates how to strengthen USAID programs using geospatial data and technology, is released to the public.
- mHero, a text messaging tool, is launched by the Government of Liberia to send weekly messages to frontline community health workers about COVID-19. USAID assisted in the development of mHero in 2014-15.
- The Digital Investment Tool, which helps USAID staff and partners apply the Principles for Digital Development in their work, is finalized and launched.
- USAID sponsors a transaction with the U.S. International Development Finance Corporation (DFC) to provide a $10 million for pay-as-you-go technology to accelerate financial inclusion and access to energy.
- The Better Than Cash Alliance, in partnership with Hindustan Unilever, kicks off the design and pilot testing of digital payment and ordering applications for Shakti entrepreneurs in India.
- USAID and Mastercard launch a partnership to expand economic opportunities and digital financial inclusion for women in India and Colombia.
- The U.S. Global Development Lab joins the new Development, Democracy, and Innovation Bureau and CDD becomes the Technology Division within the Innovation, Technology, and Research Hub.
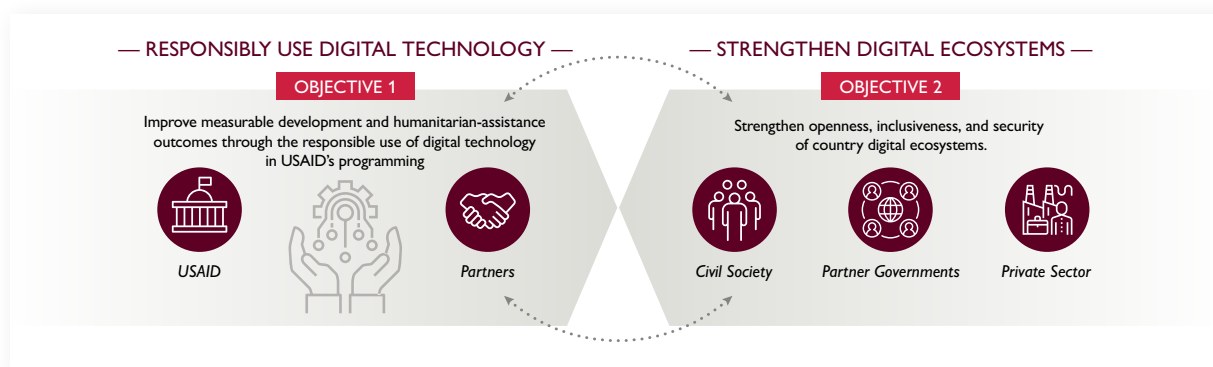
USAID DIGITAL STRATEGY

In 2020, USAID released its first-ever Digital Strategy. The Strategy provides a guide to a future where digital technology promotes inclusive growth, fosters resilient and democratic societies, and empowers all, including the most vulnerable.

To achieve the Strategy's goal, USAID will work toward two mutually reinforcing strategic objectives. The objectives help mitigate risks and clarify opportunities that will drive informed choices for the use of digital technology.

— RESPONSIBLY USE DIGITAL TECHNOLOGY —

OBJECTIVE 1

Improve measurable development and humanitarian-assistance outcomes through the responsible use of digital technology in USAID's programming

USAID   Partners

— STRENGTHEN DIGITAL ECOSYSTEMS —

OBJECTIVE 2

Strengthen openness, inclusiveness, and security of country digital ecosystems.

Civil Society   Partner Governments   Private Sector

Potential Opportunities

- Making development more effective and efficient
- Driving economic growth and financial inclusion
- Supporting accountability and transparency in governance
- Creating a platform for innovation and inclusion

Potential Risks

- The persistent digital divide: from network access to algorithmic bias
- Threats to internet freedom and human rights
- The spread of hate speech and violent extremism online
- The influence of online misinformation and disinformation on democratic processes

Photo Credit: Bobby Neptune

Strategy Goal

To achieve and sustain open, secure, and inclusive digital ecosystems that contribute to broad-based, measurable development and humanitarian-assistance outcomes.

Digital Ecosystem
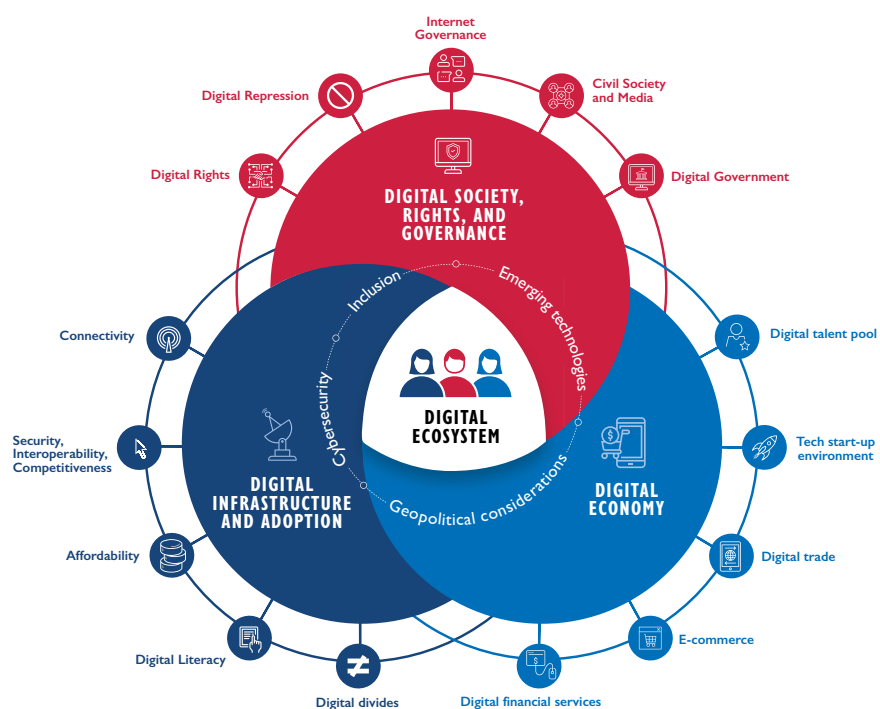
Stakeholders, systems, and enabling environments that together empower people and communities to use digital technology to gain access to services, engage with each other, or pursue economic opportunities.

To achieve the overall goal of the Strategy, these objectives will be executed through four tracks:

Help Partners Navigate Risk and Rewards

- Close gender digital divide
- Improve digital literacy
- Mitigate cyber harm
- Increase investment in data privacy protection
- Protect children from digital harm

Adopt an Ecosystem Approach

- Digital Ecosystem Country Assessments
- Digital Ecosystem Fund
- Bureau/Sector Digital Vision
- Digital Learning Agenda

Shift to Digital by Default

- Digital Payments
- Digital Data Collection
- Principles for Digital Development
- Cybersecurity, Data Privacy, and Digital Literacy

Build the USAID of Tomorrow

- Digital Development Advisors
- Executive Fellowship Program
- Integrate digital skills
- Senior level digital development officer

Photo Credit: by Riaz Jahanpour

DIGITAL STRATEGY IMPLEMENTATION

The Digital Strategy sets out a five-year approach to transform the Agency's work in digital development. Years 1-2 focus on building a foundation, creating tools and resources that help USAID staff understand and develop pilot programs in key sub-sectors of digital development. Years 3-5 focus on scale, increasing staff, training, and funds for programming.

In its first year, the Digital Strategy team developed and piloted a Digital Ecosystem Country Assessment tool in **Colombia, Kenya,** Serbia, and Nepal. To support USAID Mission programming, a pilot round of the Digital Ecosystem Fund was developed to equip the Agency's Operating Units with catalytic financing to design and implement activities that foster open, inclusive, and secure digital ecosystems. USAID Missions will use the Fund to support activities that can respond to short-notice opportunities or risks related to the digital ecosystem and support long-term strategic opportunities to strengthen the inclusiveness of the ecosystem. The team also drafted resources focused on **Closing the Gender Digital Divide** and Cybersecurity, developed guides on **Digital Development and COVID-19,** and provided support to Missions in digital investment programming.

As part of the transformation of how USAID partners do business, the team updated and released the **Digital Payments Toolkit** and conducted extensive research on digital payments and digital data collection in partnership with premier development associations (InterAction, Professional Services Council, Humentum). To ensure USAID has the human capital in place to implement these changes,

the team established classified Digital Development Advisor position descriptions, as well as job discussion help-sheets in coordination with the Office of Human Capital and Talent Management (HCTM), to facilitate an easier process for Missions to hire digital experts. The team also worked with HCTM to start the Foreign Service Officer (FSO) Digital Fellowship program, which features a Fellowship at PeaceTech Lab and a professional development opportunity with a digital focus. Finally, for internal coordination and collaboration, the Digital Strategy team created the Agency's first-ever Digital Sector Council, a forum with representatives from across the Agency to coordinate Strategy implementation and address emerging digital development issues around the globe.

In 2021, the team will continue to build the Agency's foundation by launching a Digital Ecosystem Country Assessment toolkit that will enable Missions to procure assessments through any mechanism. We will work with regional bureaus and technical sectors to develop Digital Action Plans to identify key trends and priority areas for digital investment. The team will increase field support through additional Digital Ecosystem Fund rounds and the distribution of primers that focus on Digital Literacy, Data Governance, and Protecting Children from Digital Harm. We will also continue supporting our Implementing Partners' shift to Digital by Default with technical resources.

In 2021, to upskill USAID staff, the team will launch multiple online trainings, both general and technical, for USAID staff. It will also begin to shift its focus externally to develop partnerships with other U.S. Government entities, donors, and the private sector.

Photo Credit: Sam Phelps

WHO WE ARE

Countries around the world are in the midst of an historic digital transition. While much of the world has access to a basic mobile phone and Internet speeds continue to increase, the full potential for digital technologies has not yet been realized. The reality in many communities does not yet reflect the potential of a digital ecosystem that drives sustainable and equitable growth. Vulnerable or marginalized groups often find themselves excluded from, or ill-equipped to safely navigate, the digital ecosystem—a situation made worse by the COVID-19 pandemic.

USAID is working to address gaps in digital access and affordability, while promoting the responsible use of technology and advanced data analysis in development and humanitarian assistance. Taking a multi-pronged approach, USAID leverages resources across the Agency through its Implementing Partners and other actors in three main ways:

- Catalyzing open, secure, and inclusive digital ecosystems
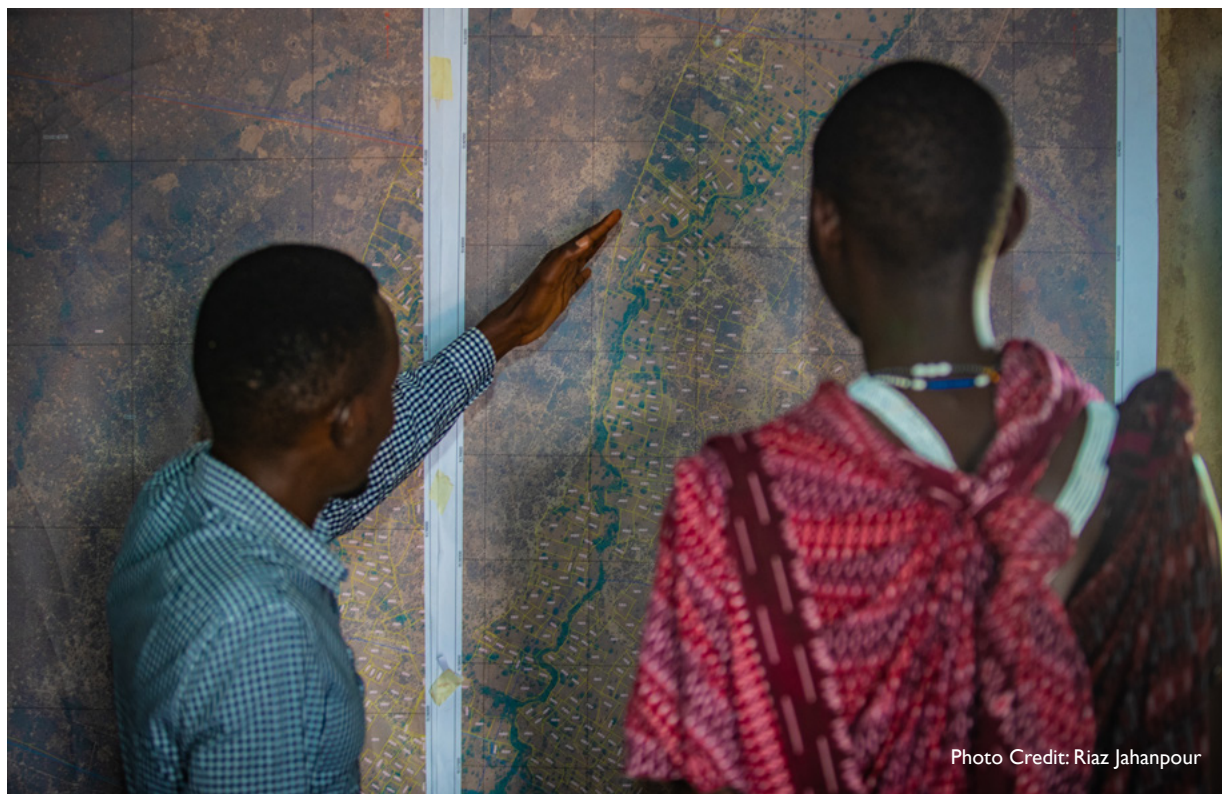- Building USAID capacity
- Accelerating USAID programming

Photo Credit: Riaz Jahanpour

OUR FOCUS

Digital Inclusion works to expand mobile and Internet access across the developing world. This "access" addresses everything from network connectivity to infrastructure and then the higher level components that drive these functions—affordability and policy and regulatory environments. Part of that same discussion in today's world is a critical look at the gender digital divide, cybersecurity, and overall digital literacy, with solutions that map to each challenge. Creating tools and model performance indicators that track and measure these elements helps both USAID Missions and the private sector invest in new business models that hit on all these important growth fields for the Agency and, by extension, the broader development community.

Strategy and Research offers guidance on how emerging technologies can be thoughtfully and responsibly leveraged to solve development and humanitarian challenges. It helps USAID become a thought leader in understanding the implications of the increasing use of emerging digital technologies in developing country contexts, especially artificial intelligence, machine learning, and digital identity.

The **Knowledge and Insights team (K&I)** works to implement comprehensive communications and engagement strategies to strengthen internal and external awareness of Digital Development programs and build the capacity of USAID staff. Through coordinated efforts, K&I galvanizes support for the Technology Division's work through a number of targeted activities, including training sessions, communications toolkits, marketing materials, communities of practice, the annual Digital Development Award program, and in-person and web-based events.

Development Informatics works within the Agency and the broader development community on the ethical and responsible use of data and digital technologies for better decision-making and strategic planning. Effective and responsible development programs require not only timely and relevant data but also approaches for strategic data use, as well as staff with the capacity to leverage both. The team is also working to grow USAID's thought leadership in digital and e-government and national data governance.
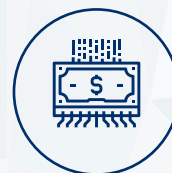
Digital Finance helps low income and underserved populations gain access to affordable, secure, and reliable financial systems. By promoting the use of digital financial services, USAID helps build lasting, inclusive economic infrastructure that improves governance and provides a foundation for innovative business models that offer relevant services to poor and underserved populations, helping create more resilient communities.

This is achieved by:

- Supporting USAID operating units (OUs) with tools, technical assistance, and advisory services that contribute to Mission strategies and programs
- Coordinating and engaging with external stakeholders and market actors through multilateral alliances, communities of practice, and corporate partnerships

The **USAID GeoCenter** is an internal team of geographers and analysts who provide direct program support to USAID staff in Washington, DC, and in Missions around the world. The team uses geographic insights to help USAID make data-driven decisions that improve the strategic planning, design, monitoring, and evaluation of USAID programs and that also inspire the next generation of geospatial analysts and GIS specialists.

DIGITAL INCLUSION

Digital ecosystems are stronger and more sustainable when they work for everyone. USAID's Digital Inclusion team works with a broad range of public and private sector partners to expand access, adoption, and use of Internet and mobile services in underserved population groups such as the poor, women, youth, ethnic and religious minorities, and people with disabilities.

Photo Credit: Securing Water for Food

Empowering Women and Girls

A majority of women in low- and middle-income countries say having a mobile phone saves them time and money, and makes them feel more safe and independent. However, once online, women and girls face harm at a disproportionate rate, creating additional barriers to their engagement with the digital ecosystem.

Microsoft Corporation's Airband Initiative and USAID partnered to address the gender digital divide, advance women's economic opportunities, and foster more inclusive Internet connectivity. The program is investing in locally-owned and operated Internet and communications technology companies serving rural areas in Colombia, Ghana, Guatemala, India, and Kenya.

USAID is committed to closing the gender digital divide through projects like the **Women Connect Challenge (WCC)**, and is working to ensure that all programming that involves digital technology addresses the digital inequities and digital harms women and girls face.

The WCC funds innovative projects that aim to close the gender digital divide. This unique initiative focuses on social norms that prevent many women and girls from utilizing technology. Since it was first announced in 2018, USAID has awarded $2.9 million to 12 grantees.

The third and most-recent round of the Challenge, announced on August 11, 2020, supports private sector-led approaches that close the gender digital divide, expand business opportunities, and empower women to reach their full economic potential in an increasingly digital world. USAID is also partnering with the Reliance Foundation to create an India-specific WomenConnect Challenge and incorporate the lessons of previous WCC rounds.

Advancing an Open and Secure Internet

In 2020, USAID released the **Barriers to Investing in Last-Mile Connectivity** report, which identifies growth opportunity and investment potential in expanding Internet access and increasing adoption, especially in the world's least developed countries. Developed

in partnership between USAID, DAI, and Connectivity Capital, the report provides a landscape analysis of last-mile connectivity and interviews with 30+ investors and operators in the sector.

In 2021, Digital Inclusion will expand its work on 5G and advanced wireless technologies, pursuant to the **National Strategy to Secure 5G Implementation Plan.** These initiatives will focus on developing ties between USAID Missions and the emerging, innovative open radio access network ("open RAN") industry, which is emerging as a competitive, secure alternative method of expanding mobile networks. This work follows what Digital Inclusion has done to promote national broadband plans, advance universal service, and partner with local, community networks that expand access in USAID partner countries.

In 2020, the Digital Inclusion accelerated its interagency work on the **Digital Connectivity and Cybersecurity Partnership (DCCP).** Launched in 2018, the DCCP is a whole-of-government initiative that aims to:

- Expand and increase secure Internet access in emerging markets
- Encourage open, interoperable, reliable, and secure digital infrastructure by increased adoption of policies and regulations
- Promote exports of U.S. Information and Communications Technology (ICT) goods and services
- Increase adoption of cybersecurity best practices

Digital Inclusion is the key focal point for the **Promoting American Approaches to ICT Policy and Regulation (ProICT)** project. ProICT is funded by DCCP and USAID Missions, and it helps partner countries establish dedicated policy support in the form of technical assistance, embedded experts, capacity-building, and training.
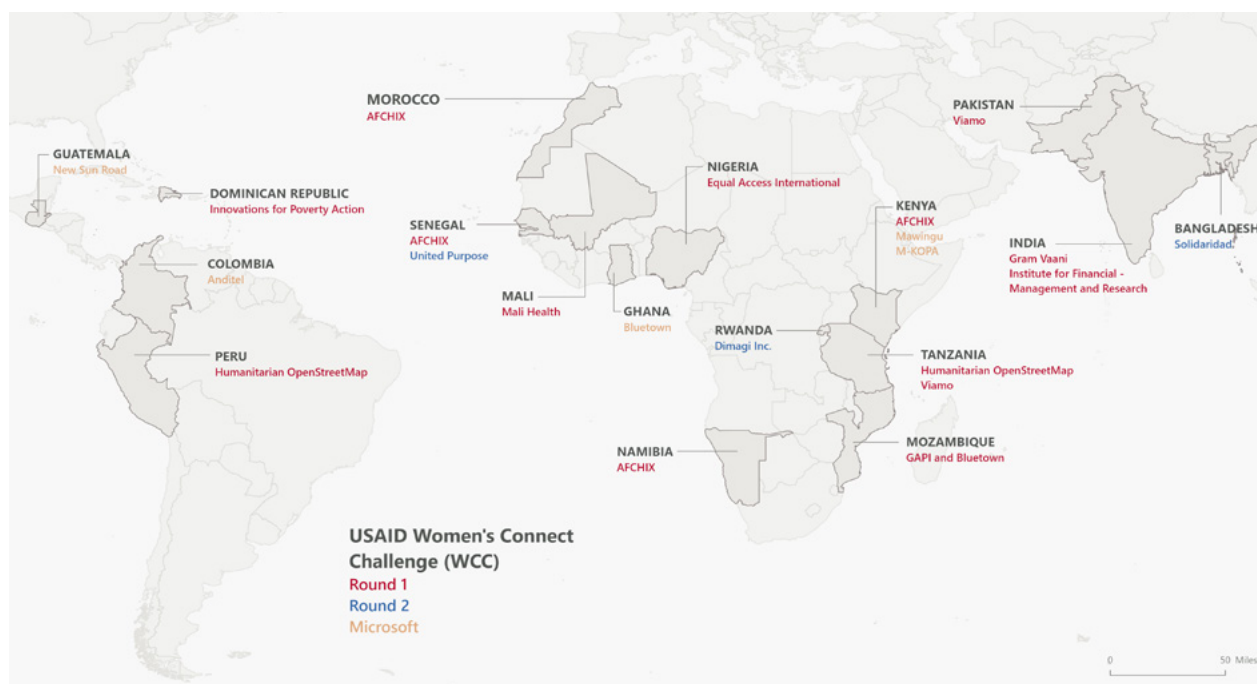

USAID Women's Connect Challenge (WCC)
Round 1
Round 2
Microsoft

Photo Credit: KC Nwakalor

DIGITAL FINANCE

USAID's Digital Finance team works to promote safe, reliable, and inclusive digital ecosystems in USAID partner countries. The team serves USAID Missions and operating units with the intention of supporting broader digital ecosystem-level change. The model is built on a learning cycle that pulls from the latest digital financial inclusion evidence and expertise generated by thought partners, multilateral alliances, and private sector partners. The underlying team principles imbue an approach that is collaborative, client-oriented, data-driven, innovative, adaptive, and catalytic.

Photo Credit: Brooke Patterson

Guiding the Use of Digital Payments

In 2020, the team prioritized the implementation of the Digital Strategy, corporate partnerships, and furthering its service to the field. Under the Digital Strategy, the Digital Finance team provided technical leadership and expertise in the implementation of the Digital Strategy, including the launch of the Digital Ecosystem Fund (DEF) and the first two Digital Ecosystem Country Assessments (DECA), in Colombia and Kenya.

The team also led the design of a digital economy workstream for USAID/Ethiopia's $55 million Market Systems for Growth (MS4G) activity, as well as provided multiple advisory services to 17 USAID Missions requesting a range of support from program design to strategic planning.

The team launched the new USAID Digital Payments Toolkit as a component of the Digital Strategy implementation, to help organizations transition from cash to digital payments. The Toolkit was designed to be used by organizations regardless of their experience with digital payments and to inspire and enable organizations new to digital payments to make the switch. The Toolkit includes a "how-to" guide divided into step-by-step modules, along with associated tools to support organizations in practically applying the knowledge learned.

As with all of USAID's work, we know context matters, and local digital ecosystems and digital financial services (DFS) may not be universally available. Partners can use the Toolkit to harness opportunities to accelerate their program activities and empower individuals to become active users of DFS to manage and improve their lives.

The Toolkit will serve as a launching pad for and reference to the team's expansion of digital payment applications at USAID and among our closest partners, with the goal of reaching and improving the lives of vulnerable and excluded populations.

Partnering with the Private Sector

The team facilitated a partnership with Mastercard to provide technical leadership on two multi-million-dollar programs that will empower women, while strengthening digital ecosystems in Colombia and India.

One such program is Start Path Empower, a business accelerator focused on promoting women's entrepreneurship and financial inclusion in Colombia. The program will provide Colombia's women tech entrepreneurs with access to leadership development and network-building support, mentorship, and technical assistance—creating a more level playing field and, in turn, unleashing the full potential of the country's next generation of women leaders.

The other program is Project Kirana, which will work to increase revenue streams, expand financial inclusion and digital payment adoption of women-owned and/or operated kirana shops in India. By joining forces, Mastercard and USAID are working to strengthen the entrepreneurial ecosystem and also support the aspirations of women entrepreneurs in India.

The team was also successful at sponsoring a transaction with the U.S. Development Finance Corporation to structure a loan portfolio that will provide a $10 million loan guarantee to investment platform Trine, to invest in pay-as-you-go technology to accelerate financial inclusion and access to energy. With technical guidance and involvement from the DFS team, the blended finance transaction will support the fintech company Trine to unlock approximately $20 million in private capital for investment in Latin America, the Caribbean, and sub-Saharan Africa.

Testing and Optimizing Emerging Models

Testing and generating actionable findings and recommendations is a key ingredient to the DFS Team's efforts to optimize the application of digital finance solutions. This year, the team supported three research projects with the Massachusetts Institute of Technology D-Lab's Comprehensive Initiative on Technology Evaluation (MIT CITE) Program through the Higher Education Solutions Network (HESN). The projects in Guatemala and Senegal assessed smallholder farmers' access to and use of DFS. The project in Burkina Faso researched the gender gap in DFS. These findings are helping Missions and external stakeholders take informed and evidence-based approaches to programming and market-level interventions.

In addition to research projects, the team developed two bright spot case studies as part of the team's annual effort to identify use cases and examples of support to the field. The bright spot use case, *Support for Market Growth with USAID/Ethiopia,* details the team's contribution to Activity Design of the Market Systems for Growth activity at USAID/Ethiopia. Another use case, *Digital Payments in Liberia,* presents the key takeaways

from USAID's involvement with the Government of Liberia and Lonestar Cell MTN in expanding digital payments and mobile money services in Liberia.

The team also designed a program currently implemented by the Toronto Centre to advance women's economic empowerment. The program is currently engaging four country-level financial authorities in Colombia, Kenya, Zambia, and Peru. The objective is to better define the pre-conditions for using sex-disaggregated data and technology to advance inclusion and build trust in the financial sector. This effort builds on previous work on the use of regulatory technology ("RegTech") applications by financial authorities and industry to facilitate better market oversight, supervision, and reporting. RegTech applications rely on capabilities provided by artificial intelligence, APIs, and other technologies to handle larger and more complex data sets.

Heading into 2022, the team will continue to support and generate recommendations for USAID in a COVID-modified world. This effort builds upon the development of internal and external guidance on digital payments in response to COVID-19 and the delivery of an internal webinar on COVID-era cash transfers.

Photo Credit: Bobby Neptune for DAI

GEOCENTER

The GeoCenter provides technical assistance to inform decision-making in USAID's Washington, DC, offices and field Missions. It conducts mapping, analysis, and data visualization; provides remote sensing support to Missions and Implementing Partners; and empowers a new generation of digital mappers in universities around the world.

Mapping, Analysis, and Visualization

In 2020, the GeoCenter supported USAID's response to the COVID-19 crisis. The team became an integral part of the USAID COVID-19 Taskforce by providing on-demand strategic analysis and mapping expertise. The team also helped 12 USAID field Missions create their own country-specific COVID-19 dashboards that display pandemic data at sub-national levels, such as number of cases, tests conducted, rates of recovery, and deaths. These dashboards became critical to decision-makers for tracking and preventing the spread of the disease.

The GeoCenter continued to build the capacity of USAID to use geospatial data and mapping for decision-making through its support to the USAID geospatial community. Throughout the pandemic year, the team delivered multiple virtual training events for GIS Specialists in the field and for the first time held its annual workshop online with 90 participants from across USAID's global geospatial community.

In India and Central Asia, the GeoCenter helped hire and onboard two new GIS Specialists to support Mission programming, growing the GIS expert network to 31 specialists in 28 Missions. In **East Africa,** the team helped the regional Mission develop a five-year strategic plan with demographic analysis and thematic maps. The analyses helped the mission engage with three strategic groups for the first time (public, private, and community stakeholders) to address key challenges with improved cooperation and coordination.
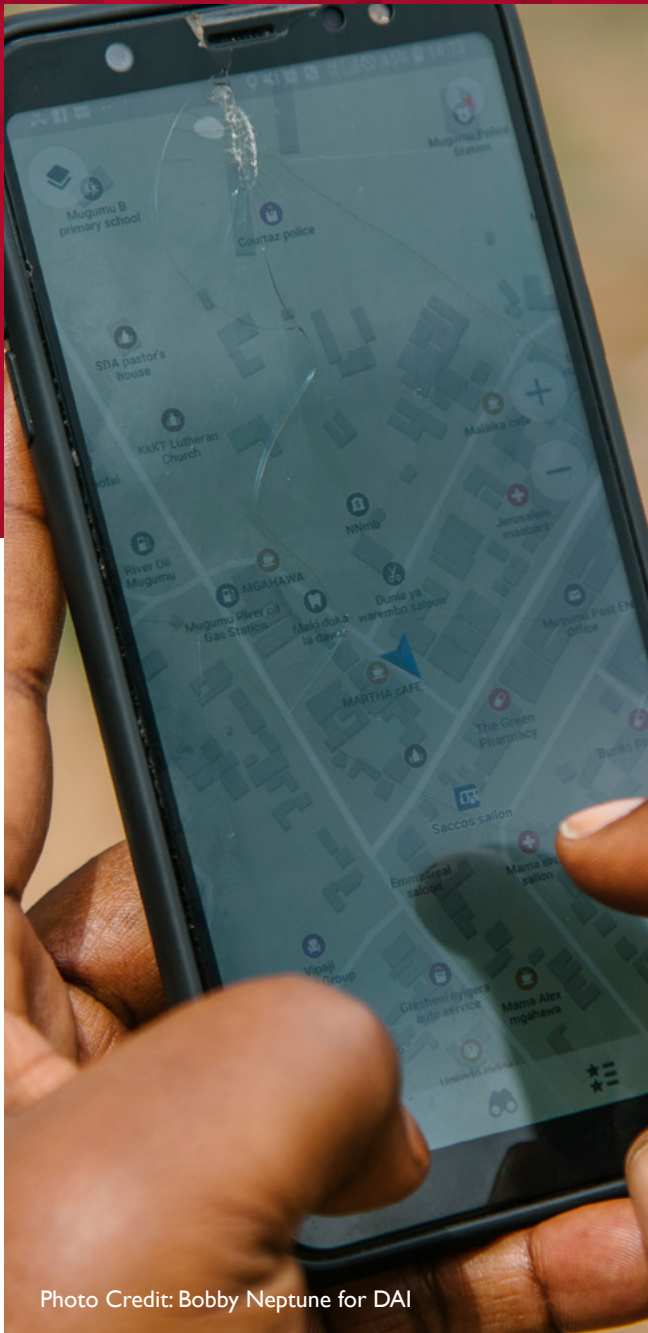
Remote Sensing

Since its inception, the GeoCenter has provided access to high-resolution satellite imagery for 139 USAID projects in 52 countries. The imagery has informed key U.S. Government foreign policy priorities in agriculture, conflict and stabilization, food security, health, land use, natural disasters, weather and climate, and water resources. For example, in 2020 high-resolution satellite imagery helped with tracking new Venezuelan refugee settlements that were forming in Colombia. To date, the use of this satellite imagery has saved USAID more than $76.4 million.

Empowering a New Generation of Digital Mappers

2020 marked the fifth year of the **YouthMappers** program, a global network of more than 235 universities across 53 countries. The program provides university students with digital mapping skills, leadership experiences, and opportunities to create new geospatial data for development projects in undermapped places where USAID works. To support the COVID-19 response, YouthMappers worldwide mobilized to update approximately 25 percent of health facilities around the world on a free and open global mapping platform known as OpenStreetMap.

In 2020, the GeoCenter and YouthMappers also launched **Everywhere She Maps.** The program aims to empower female university students by teaching them digital mapping skills and creating open geographic data focused on women's economic opportunity and overall societal welfare.

Photo Credit: Riaz Jahanpour

Photo Credit: KC Nwakalor

DEVELOPMENT INFORMATICS

The Development Informatics team works within the Agency and the broader development community on the ethical and responsible use of data and digital technologies for better decision-making and strategic planning. Effective and responsible development programs require not only timely and relevant data but also approaches for strategic data use, as well as staff with the capacity to leverage both. The team is also working to grow USAID's thought leadership in digital and e-government and national data governance.

Advancing Data-Driven Design of USAID Programs

The Informatics Team launched the **Digital Investment Tool** to help USAID staff apply and concretely integrate the **Principles of Digital Development** into activities that use digital technologies through a participatory process with relevant stakeholders. This resource supports stronger digital ecosystems by helping Missions and partners design digital systems that are more effective and sustainable.

The team developed the Data Ecosystem Rapid Assessment (DERA) tool to help USAID OUs and Missions understand and address sector-level data constraints in development and humanitarian contexts. The DERA identifies constraints in data collection, analysis, use, and sharing and recommends solutions to these constraints. The team is exploring opportunities to collaborate with OUs and Missions to complete one to three DERAs in 2021.

Enabling Robust, Inclusive Digital Societies and Governments

Development Informatics created both an accomplishments and lessons-learned report and a cost analysis and recommendations report at the conclusion of its work with mHero, a two-way information-sharing platform developed to communicate with frontline health workers during the West Africa Ebola outbreak. The reports were used by UNICEF headquarters to inform the scale-up of mHero in other countries like Liberia, where the government used mHero to send weekly COVID-19 updates to the field and for early case detection.
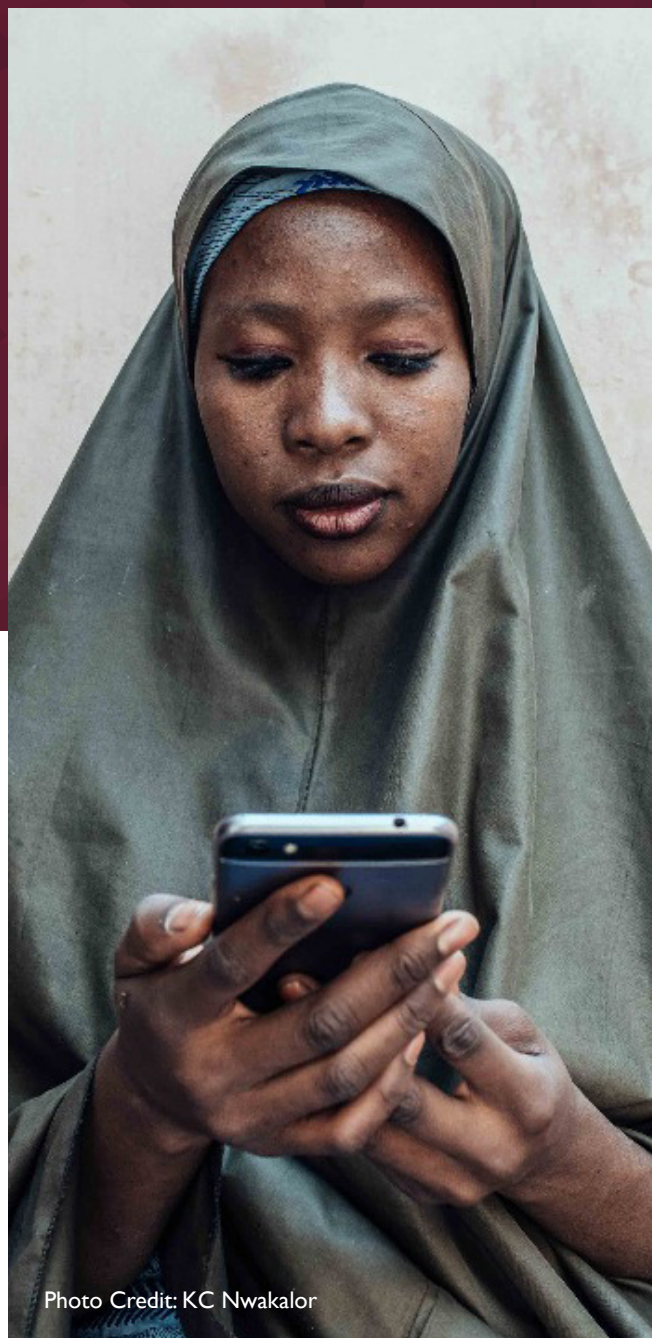
Responding to COVID-19

As COVID-19 emerged as a global pandemic, the Development Informatics team shared **lessons learned** from responding to the 2014 West Africa Ebola epidemic. Recognizing that information is crucial to fight the spread of COVID-19, the team worked to ensure **responsible and effective use of digital technologies and data** in the COVID-19 response. The Agency helped to create a key resource, *Considerations for USAID Mission Staff for Programmatic COVID-19 Preparedness and Response: Digital Technologies and Data Systems,* which serves as an institutional readiness guide to prevent, detect, and respond to COVID-19 and its effects. At the request of the COVID-19 Task Force, the team developed the *Guide For Adopting Remote Monitoring Approaches During COVID-19,* which provides information for Agency staff and Implementing Partners on remote monitoring techniques and when they can be employed.
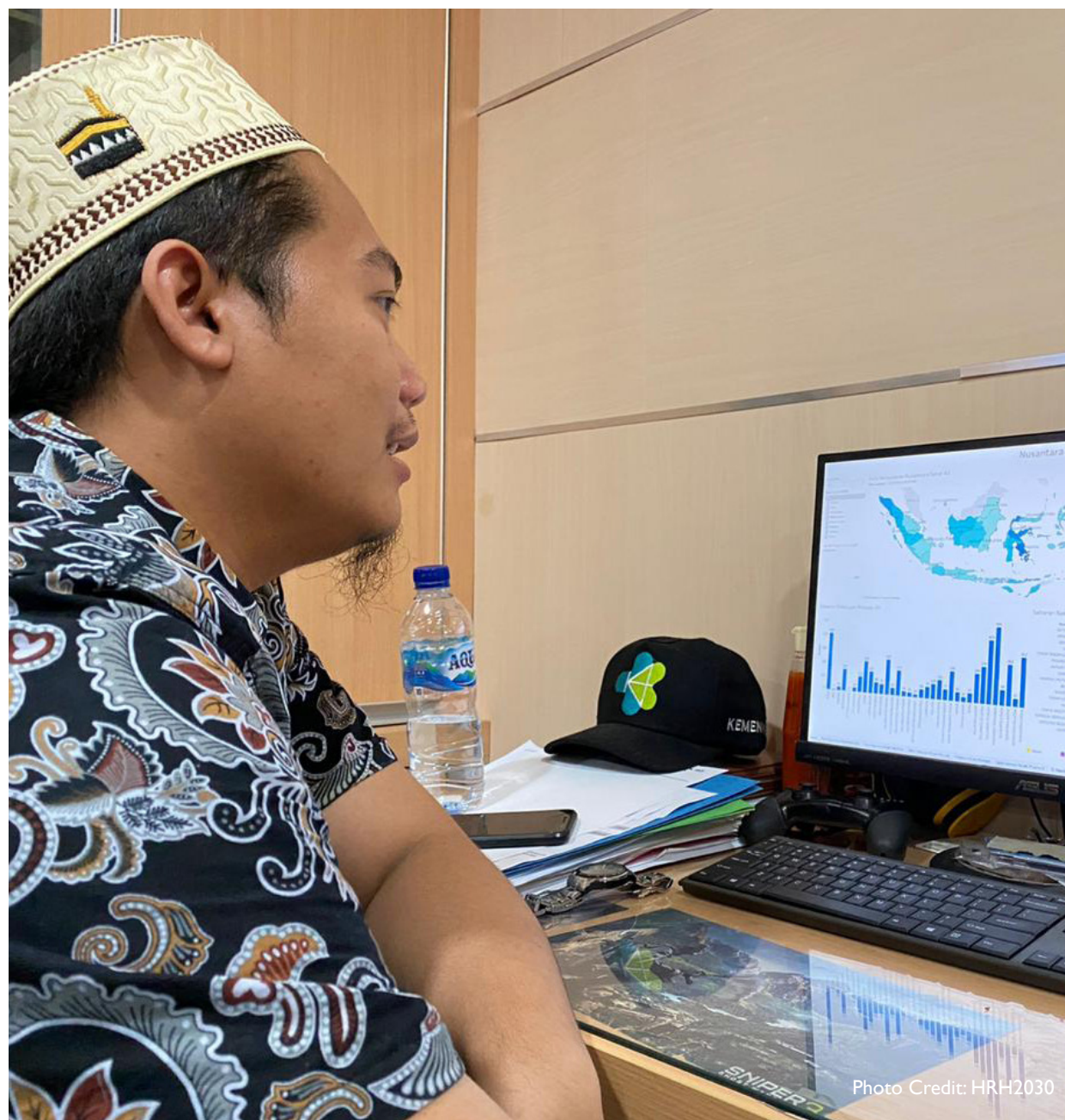
Photo Credit: HRH2030

Photo Credit: Jack Gordon

STRATEGY AND RESEARCH

The Strategy and Research team researches and offers guidance on how emerging technologies may be thoughtfully and responsibly leveraged to solve international development and humanitarian challenges. With the ever-increasing integration of digital technologies in both the public and private sectors, we must consider both the continued opportunities and risks that these technologies present. This requires us to examine the social norms and political and economic realities that may impact the inclusive, sustainable access to and use of emerging digital tools. In development, these factors are especially important to consider, as many of the communities we serve are those who are most impacted by barriers to or risks from technology.

Exploring and Guiding Responsible Use of Emerging Technology in Development

Artificial intelligence (AI) is a key focus of the Strategy and Research team's work. As a companion document to a 2018 report on AI in development, Strategy and Research released *Managing Machine Learning Projects in International Development: A Practical Guide.* The guide aims to help practitioners implement projects with an AI component. In a complementary project, MIT's D-Lab, supported by the Strategy and Research team, released a report and instructional videos that provide technical guidance on AI fairness in development contexts. The team also worked with partners at NetHope and MIT to assemble an AI suitability toolkit that assesses whether AI could be an appropriate tool in development programming.

On a broader level, the team represented USAID on the International Development Innovation Alliance AI Working Group and has undertaken a joint effort with our ITR/Research Division colleagues and UK Research and Innovation (UKRI) to further explore responsible digital development through academic research. Finally, the team developed and led **three webinars** and two virtual workshops with NetHope, Plan International, and MIT's D-Lab to shape global discussion of AI Ethics and Fairness.

Digital identification (DID) is also a key theme of the Strategy and Research team's work. As a companion to the previously released **DID Report** and **How-to Guide,** the team continued to **develop resources** to highlight the role that responsibly designed DID systems can play in advancing countries' inclusive development. In addition, through a partnership with Makerere University's Resilient Africa Network, the team supported a user-centered research project to better understand **qualitative** and **quantitative** costs and benefits of national digital ID systems in East Africa—findings that were used to inform policy-makers, private sector actors, and academia.

The team also tracks other emerging technologies and hosted a **"Digi-Know" webinar,** in which researchers from MIT presented findings from a recent **Lab-funded study** on applications of the Internet of Things in agricultural contexts.

Supporting Responsible Digital Innovation within USAID programming

The Strategy and Research team uses its expertise in emerging technologies to assist USAID colleagues in developing strategic priorities and implementing activities throughout the world. For instance, the team provided technical assistance to USAID's Eastern and Southern Caribbean Mission in drafting their Regional Development Cooperation Strategy, with a particular

focus on responsible digital innovation, and the corresponding digital ecosystem components to enable such innovation.

In line with its research on AI, the team supported the successful launch and review of concept notes for the Global Health Bureau's **Intelligent Forecasting** prize, which aims to use predictive analytics to identify issues in contraceptive supply chains.

The team also continued to provide assistance to USAID/India, as they moved into the implementation phase of a tuberculosis project (TRACE-TB), which aims to strengthen the country's TB management system by incorporating use of AI for better disease diagnosis and management along the patient care cascade. Some of the technological approaches developed in this project are also being considered for managing COVID-19.

Finally, Strategy and Research grew the membership and convened regular meetings of AI@AID—a USAID-internal working group focused on programmatic use of AI—to collaborate and share learnings among USAID staff.

Surveying the Digital Development Ecosystem

As part of the Agency's Digital Strategy, Strategy and Research team members led the creation, piloting, and publication of the first USAID Digital Ecosystem Country Assessments (DECA) for **Colombia** and **Kenya.** The DECAs are structured research and assessment processes that support USAID Missions to identify opportunities, maximize benefits, and manage risks associated with digital technology. More generally, the team has developed a structured forecasting process—based on identifying patterns, trends, and scenarios—to remain abreast of emerging technologies and the social, political, and economic trends that they catalyze.

Lastly, Strategy and Research is coordinating with and learning from other influential actors in the digital ecosystem. The team holds regular meetings with colleagues in the State Department to discuss AI policy, ethics, governance, and development issues. In addition, the Strategy and Research team is participating in the interagency **AI Community of Practice** organized by the General Services Administration (GSA), which focuses on trustworthy AI, privacy issues, and the overall AI workforce. Through these engagements, the team aims to gain different perspectives on digital issues and incorporate them into USAID's digital development work.
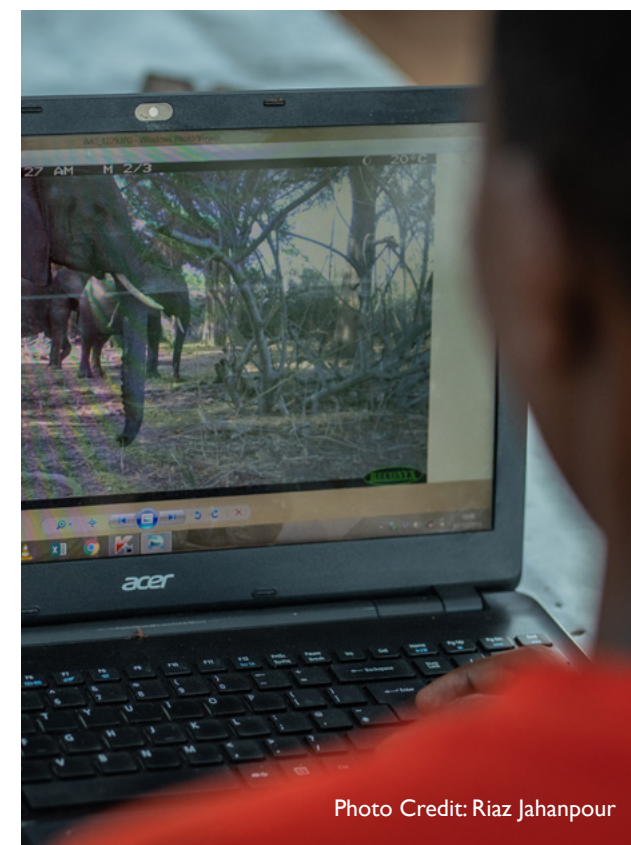

Photo Credit: Riaz Jahanpour

KNOWLEDGE & INSIGHTS

The Knowledge and Insights team (K&I) works to implement comprehensive communications and engagement strategies to strengthen internal and external awareness of Digital Development programs and build the capacity of USAID staff. Through coordinated efforts, K&I galvanizes support for the Technology Division's work through a number of targeted activities, including training, communications toolkits, marketing materials, communities of practice, and in-person and web-based events.

Photo Credit: Melinda Donnelly

Co-organized the 2020 Global Digital Development Forum

Conferences and networking events have been an important channel for sharing information, building capacity, and learning about new trends in digital development. However, with the onset of the COVID-19 pandemic in early 2020, most if not all of the field's high profile, in-person conferences were either cancelled or hosted online.

The K&I team, along with colleagues from TechChange, IntraHealth, Save the Children, the Digital Impact Alliance, and Chemonics, recognized the opportunity and critical need to bring the digital development community together during a global crisis. Coming together to face the crisis together highlighted how essential open, secure, and inclusive digital ecosystems have become in the world's response to the pandemic. With that mindset, the K&I team co-organized the first Global Digital Development Forum in May 2020. This 16-hour virtual event featured over 154 sessions and engaged more than 2,600 participants representing 1,179 different organizations from 127 countries. Our Technology Division led or participated in 12 sessions, including a keynote on the Digital Strategy attended by over 1,000 people.

Launched the 2020 Digital Development Awards

USAID is working towards a future where digital technology empowers all, especially the most vulnerable. In May 2020, the Technology Division launched the third round of the **Digital Development Awards** (the Digis) at the Global Digital Development Forum. The Digis recognize and celebrate USAID-funded projects and activities from all geographic regions that use digital technology to sustain open, secure, and inclusive digital ecosystems and demonstrably improve measurable development and humanitarian-assistance outcomes.

Over 140 applications were submitted from around the world. Each project was judged on the ability to support the digital ecosystem or digital technology development, as outlined in USAID's new **Digital Strategy.** In October 2020, the five winners were announced. Learn about **past and present winners.**

Expanded the Digital Development Advisors program

In 2016, the K&I team supported the launch of the Digital Development Advisors (DDAs) program, which is a collaborative initiative between the Technology Division and USAID Missions to build sustainable, locally held staff capacity to support the integration of digital technologies and data analytics into Mission programming. With the launch of the Digital Strategy in April 2020, the DDAs became their Mission's primary resource and support for understanding and advising on opportunities to their partner country's digital ecosystem.

In 2020, the program grew exponentially with the addition of nine Digital Development Advisors in India, Kenya and East Africa, Ukraine, Vietnam, and two Bureaus (Development, Democracy, and Innovation Bureau and the Middle East Bureau). The program currently has 22 members from 14 Missions and two Bureaus, and we're working with Missions to hire four more advisors.

The 2020 Digi Award Winners

USAID/Kyrgyz Republic: USAID-IDLO Judicial Strengthening / Trusted Judiciary Program

USAID/Indonesia: Human Resources for Health in 2030 (HRH2030) Program

USAID/Ukraine: Transparency and Accountability in Public Administration and Services Activity (TAPAS)

USAID/Pakistan: Pakistan Small and Medium Enterprise Activity (SMEA)

USAID/RDMA: The Oceans and Fisheries Partnership (USAID Oceans)

Photo Credit: Riaz Jahanpour

LOOKING FORWARD

The 5G Future

The high-speed capabilities of fifth-generation (5G) broadband Internet will connect rural and urban citizens to the Internet and integrate cutting-edge artificial intelligence and machine learning into industries like farming, manufacturing, and healthcare in emerging markets. A secure, open, inclusive, and reliable 5G network can serve as the foundation for open and accountable governance, inclusive development, and widespread economic growth. Stated simply, 5G technology offers both opportunity and challenges—not only on the international front but for U.S. domestic policy.

USAID plays a prominent role in the **national strategy** to secure 5G, called for by the Secure 5G and Beyond Act of 2018. A key pillar of the national strategy is to engage international partners to promote the responsible global development and deployment of 5G. This vision includes USAID's commitment to engage developing countries directly on these central questions of network security, interoperability, and inclusivity, values that are not only central to the USAID Digital Strategy but are also important to advancing national security and human rights.

To engage on these topics, USAID is working directly with its interagency partners, including the Federal Communications Commission (FCC), Department of State, the U.S. International Development Finance Corporation (DFC), United States Trade and Development Agency (USTDA), and the Export-Import Bank of the United States (EXIM) on a number of initiatives.

These include:

- Broad interagency programming through the Digital Connectivity and Cybersecurity Partnership, which became a global program in 2020;
- Regular policy coordination and collaboration with the FCC on ICT and telecom policy to help USAID Missions provide timely and accurate advice and assistance to developing country regulators;
- Support for USAID Missions in designing digital programs that are consistent with the Digital Strategy and the National Strategy to Secure 5G; and
- Work with the U.S. State Department to negotiate bilateral joint declarations on 5G security with developing country governments, and similar dialogues with donor partners on digital development.

All of these initiatives are aimed at helping international partners take advantage of the significant opportunities that 5G and other advanced communications technology offers, while also being mindful of the risks and challenges that these technologies present.

Ethical Approaches to Artificial Intelligence

As AI becomes more widespread in developing countries, it is important that safeguards are put in place to ensure the technology is used to empower people, promote equitable economic growth, and enhance human rights. Unfortunately, these same technologies can be used to oppress, surveil, and disenfranchise.

To help guard against these outcomes, it is critical that USAID strengthen our capacity to responsibly engage with and shape these technologies. As such, we will continue to:

- Capitalize on high-impact use cases to further USAID's mission
- Map out approaches for inclusive and equitable design
- Responsibly leverage private sector expertise while fostering local innovation
- Strengthen enabling environments for inclusive, just, and equitable AI applications

USAID is continuing to strengthen its internal capacity to engage responsibly with AI. We are developing resources for staff to integrate considerations for responsible AI throughout the program cycle, including an interactive workshop for USAID staff. Through ongoing and upcoming USAID projects, the Division will design research questions about how AI can be implemented effectively, answer those questions, and feed learnings back into future projects.

USAID will also continue to lead the development community through our strategic direction and investments. The Division will begin a new project focused on understanding and developing creative approaches to address gender bias in AI across development contexts. We will also work with other USG agencies to inform key AI priorities and partnerships in the international realm. And as a follow on to USAID's Digital Strategy, we are also leading the effort to create an AI Strategic Framework for the Agency that will serve as an agenda-setting document for USAID and other development actors when determining whether and how to engage with AI.

LOOKING FORWARD

Cybersecurity

Cybersecurity is a first-order strategic and operational priority across all phases of the USAID program cycle. It is the way that people, systems, and technology protect digital information from being stolen, damaged, modified, or exploited; and is crucial to the Digital Strategy's goal of achieving and sustaining open, secure, and inclusive digital ecosystems. As reliance on digital technology expands within an ecosystem, so do the number of vulnerabilities. A lack of cybersecurity has quickly become one of the greatest threats to social stability, pro-democracy efforts, and human rights, as well as economic growth and access to financial, health, and education services. Failing to mitigate these vulnerabilities will lead to the destabilization of the digital ecosystem as a whole.

USAID is increasingly being asked to support the digitalization of partner countries, and the Agency's new Digital Strategy encourages investment in these digital ecosystems. As countries adopt a greater number of digital systems and tools that facilitate increasing flows of data and capital, there are strong incentives for malicious actors to exploit vulnerabilities, creating novel and fast-evolving risks. USAID's digital investments must include analysis on the opportunities and risks presented by digitalization and ensure that any digital programming addresses cyber harms and includes cybersecurity mitigation measures.

Due to cybersecurity's critical part in the Digital Strategy and its role within the global impact USAID programs have within various environments, the Agency has prioritized continued capacity-building in these areas. To this end, initial steps have included:

- Establishing a coordinator for cyber strategy for programs
- Forming a Cybersecurity Working Group
- Developing a cybersecurity primer for Missions
- Jointly implementing the DCCP program with the Department of State
- Creating the Digital APEX program

Next steps include building out cyber awareness and capacity, elevating cybersecurity as a core element of program design and overall implementation strategy, adapting USAID operational and procurement structures and processes, supporting ongoing assessments and research on evolving cyber trends and challenges, integrating with efforts across the U.S. government, and sharing information and engaging further with other major development organizations and private technology and cyber companies.

The Digital APEX program was created in September 2019 as a way to bring advanced cybersecurity support from expert U.S. small businesses to USAID beneficiary teams and Implementing Partners. Its core cybersecurity services consist of:

- Customized cyber training and a deep risk assessment and mitigation of vulnerabilities in the IT systems and policies of select project teams, and
- Emergency response in case of cyber-attack.

Digital APEX can also provide a range of other support (e.g., counter-disinformation training, payments security, and others) in emerging-technology areas to USAID project teams, as needed, in addition to "classic" cybersecurity.

The program is now in its second year of operation and has begun engagements with project teams in Georgia, Kyrgyzstan, Colombia, Guatemala, Kenya, Nicaragua, Tajikistan, and Bangladesh.

Photo Credit: Riaz Jahanpour

EPILOGUE

2020 was a tumultuous year in large part due to the deadly COVID-19 pandemic. Efforts to address the crisis demonstrated the incredible power that digital technology offers. USAID supported the development of tools and approaches that are designed for a world irrevocably altered by COVID-19, and we will continue to do so, moving forward.

USAID in April 2020 launched its first-ever Digital Strategy—an important step toward reaffirming USAID's role in the digital age, promoting and realizing democratic values abroad and advancing a free, peaceful, and prosperous world. But there is still work to be done. The first year of implementing the Digital Strategy has led to great strides in building a foundation, as we created tools and resources to help USAID staff and partners. These efforts will continue through the second year before shifting to scaling up the program in the final three years of the Strategy.

Each of the Technology Division's teams—Digital Inclusion, Digital Finance, GeoCenter, Development Informatics, Strategy and Research, and Knowledge and Insights—will continue to build on the work done in 2020 and support our partner countries to realize the full potential of open, inclusive, and secure digital ecosystems. Looking to the future, we are excited to see growth and continued focus on 5G capabilities, ethical use of artificial intelligence, and cybersecurity.

Although we do not know what new technologies will arise in the coming years or how people will use them, USAID will continue to ensure that digital tools and technologies enable people to live freer, healthier, more prosperous lives.

LEARN MORE

Have questions or want more information on the latest digital development tools and programs?

Stay in touch to learn more about our latest projects, resources, and updates:

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DigitalDevelopment@USAID.gov